PERFORMANCE AUDIT

DEPARTMENT OF CORRECTIONS

PRISON MAINTENANCE AND CONSTRUCTION

Report to the Arizona Legislature
By the Auditor General
September 1991
91-12

DOUGLAS R. NORTON, CPA
AUDITOR GENERAL

STATE OF ARIZONA
OFFICE OF THE
AUDITOR GENERAL

September 30, 1991

Members of the Arizona Legislature

The Honorable Fife Symington, Governor

Mr. Samuel A. Lewis, Director
Department of Corrections

Transmitted herewith is a report of the Auditor General, A Performance Audit of the Department of Corrections, Facilities Construction and Maintenance. This report is in response to a June 14, 1989, resolution of the Joint Legislative Oversight Committee.

The report is a follow-up of two 1985 performance audits of the Department. We found that the Department has addressed many maintenance problems identified in our previous audit, that weakened security and created life-threatening situations for inmates and staff. However, Arizona's prisons still need major repairs and renovations which will require additional funding and effective utilization of available resources. We also found that the prison construction program is adequately administered. Prisons are being constructed in a timely basis and at a relatively low cost.

My staff and I will be pleased to discuss or clarify items in the report.

This report will be released to the public on October 1, 1991.

Sincerely,

Douglas R. Norton

Douglas R. Norton
Auditor General

DRN:lmn

2700 NORTH CENTRAL AVENUE • SUITE 700 • PHOENIX, ARIZONA 85004 • (602) 255-4385 • FAX (602) 255-1251

SUMMARY

The Office of the Auditor General has conducted a performance audit of the Department of Corrections' (DOC) construction and maintenance programs, pursuant to a June 14, 1989, resolution of the Joint Legislative Oversight Committee. Because the Department of Administration (DOA) has been primarily responsible for prison construction since 1985, this audit also addresses DOA's performance in constructing Arizona prisons. The audit was conducted under the authority vested in the Auditor General by Arizona Revised Statutes (A.R.S.) §§41-2351 through 41-2379, and is the fourth in a series of DOC audits.

This report is a follow up of two 1985 performance audits of DOC. The first report (Performance Audit Report No. 85-2) focused on DOC's management of prison construction, and cited deficiencies in DOC's long-range planning, site evaluation and budget development processes, scheduling, and controls over construction-related activities.

The second report (Performance Audit Report No. 85-13) reviewed DOC's maintenance of correctional facilities. In that 1985 report we found that State prisons were in very poor condition, with unsafe electrical systems, structural weaknesses, and major plumbing deficiencies. We also identified problems in DOC's budget development process for maintenance and its reporting of maintenance expenditures.

Because of the technical nature of the maintenance issues addressed in this audit report, we solicited the help of a volunteer consultant with over 20 years of maintenance management experience. The consultant spent almost 150 hours working with audit staff, visiting correctional facilities, interviewing maintenance personnel, and reviewing maintenance requests, justifications, and cost estimates.

Despite Some Serious Ongoing Problems Prison Maintenance Has Improved (see pages 5 through 14)

State prisons are maintained better than they were at the time of our 1985 audit. Our previous audit identified a variety of maintenance

problems that created life-threatening situations for inmates and staff and weakened security. Many of these problems have been addressed.

However, some major repairs and renovations are still needed. Serious maintenance deficiencies, ranging from inadequate electrical and fire alarm systems to leaky plumbing, continue to plague the State prison system. The Department has not received adequate State funding for building renewal and capital improvements. For example, only 5 percent of the Department's budget request for major maintenance was approved in fiscal year 1990-91. As a result, correctional facilities continue to deteriorate. Additional funding for maintenance projects is needed to reverse this deterioration.

Because DOC is not likely to obtain full funding for maintenance in the near future, it is important the agency explore ways to more effectively utilize available resources. Our analysis indicates that DOC has not taken sufficient advantage of cost-saving opportunities. A more comprehensive review of maintenance issues by DOC's Facility Management Bureau (FMB) may identify more cost-effective solutions to maintenance problems. For example:

- The Department requested $1.2 million for kitchen repairs in the Central, North, South and Women's units at ASPC-Florence. Rather than pursue funding for those repairs, our consultant recommends DOC consider the feasibility of (1) preparing all food at the central kitchen being built for the adjacent Eyman complex, and (2) converting the Florence facilities into serving kitchens only. Our consultant estimates this could result in cost savings of almost $500,000 in construction and equipment. Further study is needed, however, to determine whether the operational savings associated with centralization would offset additional costs resulting from the need to set up a food distribution system.

The agency should also take steps to more adequately prepare its maintenance budget requests. For example, we found cases in which the FMB-approved maintenance and renovation projects were unrealistic, unnecessary or could have been performed more cost-efficiently. Such requests can only increase DOC's difficulty in obtaining funding for truly necessary projects.

Although Some Deficiencies Were Noted, The Prison Construction Program Appears To Be Adequately Administered (see pages 15 through 24)

Our review suggests that, in general, the prison construction program is adequately administered. The Department of Administration (DOA) assumed responsibility for the prison construction program in 1985. Although forced by austere appropriations to build prisons with less money than originally projected, DOA has been able to construct facilities within budgets; however, the impact on prison operations was not studied in detail and is uncertain.

Overall, the construction costs of prisons built in Arizona are substantially less than the costs of prisons built by other states and the Federal government. For example, Arizona's average cost per bed is 24 to 44 percent less than the national average for various security levels. Prison construction has been relatively timely as well, with only slight delays on three of the last six projects completed since 1988.

However, we did note some deficiencies. Our review indicated that DOA's oversight of architectural firms and its management of inmate-labor projects can both be improved. We also found that DOA could take steps to ensure that construction deficiencies and warranty repair items are addressed in a more timely manner.

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INTRODUCTION AND BACKGROUND

The Office of the Auditor General has conducted a performance audit of the Department of Corrections' (DOC) construction and maintenance programs, pursuant to a June 14, 1989, resolution of the Joint Legislative Oversight Committee. Because the Department of Administration (DOA) has been primarily responsible for prison construction since 1985, this audit also addresses DOA's performance in constructing Arizona prisons. The audit was conducted under the authority vested in the Auditor General by Arizona Revised Statutes (A.R.S.) §§41-2351 through 41-2379, and is the fourth in a series of DOC audits.

This report is a follow up of two 1985 performance audit reports of DOC. The first report (Performance Audit Report No. 85-2), focused on DOC's management of prison construction, and cited deficiencies in the Department's long-range planning, budget development processes, scheduling, and controls over construction-related activities.

The second report (Performance Audit Report No. 85-13), critiqued DOC's maintenance of correctional facilities. In the 1985 report, our Office found that facilities were in very poor condition. We also found deficiencies in DOC's budget development process for maintenance and its reporting of maintenance expenditures.

The Maintenance Program

Legislation enacted in 1985 transferred the administration of major maintenance projects from DOC to DOA. DOC's role in prison maintenance, however, remains extensive. The Department retains responsibility for reviewing and evaluating its major maintenance needs, and for clearly articulating those needs in the budget requests it submits. Moreover, DOC is still responsible for budgeting routine maintenance.

In order to determine the adequacy of prison maintenance, our Office sought to answer several basic questions:

- Have previously identified structural, electrical, and plumbing deficiencies been addressed since our 1985 audit?

- Has DOC adequately identified, tracked, and requested funding for major new maintenance problems?
- Has DOC received adequate financial support from the State?
- Has DOC allocated sufficient operating monies for routine maintenance?
- Has the central office of DOC's Facilities Management Bureau provided adequate support services to correctional facilities?

These questions are addressed in Finding I, page 5.

The Prison Construction Program

Much has changed since the 1985 report on prison construction. The Department of Administration (DOA), not DOC, now manages the prison construction program throughout the State. On January 1, 1985, prior to the release of our previous report, responsibility for most of the construction program was transferred to DOA because it was believed such a move would expedite prison construction. Although DOC remains a key participant in construction planning and development (i.e., DOC establishes the need for new beds, and assists DOA in determining the design, scope, and projected cost of a construction project), once construction begins, DOA assumes full control.

Since assuming responsibility for prison construction, DOA has administered a sizeable program. Since 1985, the State has spent over $172 million on building correctional facilities, including the construction of almost 8,000 beds for twenty-four separate projects.

Because of the size and scope of the construction program and our time constraints, our review focused primarily on answering the following basic questions about administrative efficiency:

- Are construction appropriations adequately controlled?
- Are projects completed on time and within budget?
- How do Arizona's prison construction costs compare with those of other states and the Federal government?

The answers to these questions should provide a fair indication of program management. To supplement this review, we also conducted a detailed examination of the three largest and most expensive prisons built in the State since 1988. This examination enabled our Office to assess in greater detail the efficiency of the program's day-to-day operations. The results of our examination are presented in Finding II, page 15.

Technical Assistance

Because of the technical nature of the maintenance issues addressed in this report, we solicited the help of a consultant, Leo Mortenson, as part of our Office's Volunteer Program. Mr. Mortenson has over 20 years' management experience in institutional maintenance, including directing the maintenance program for the Boeing Corporation and serving as a consultant to the Greyhound Corporation. Mr Mortenson spent almost 150 hours working with audit staff, visiting correctional facilities, interviewing maintenance personnel, and reviewing maintenance requests, justifications, and cost estimates. His contributions, in the form of assessments and recommendations, are identified throughout our finding on the maintenance program.

This audit was conducted in accordance with government auditing standards.

The Auditor General and staff express appreciation to the Director and staff of the Department of Corrections, and the staff of the Department of Administration's Facilities Planning and Construction Office for their cooperation and assistance during our audit.

FINDING I

DESPITE SOME SERIOUS ONGOING PROBLEMS PRISON MAINTENANCE HAS IMPROVED

Arizona prisons are better maintained than they were during our 1985 audit although serious problems remain. Substantial improvement in prison maintenance is evident at most institutions. However, numerous maintenance deficiencies persist due to inadequate State funding for building renewal and capital improvement projects. In addition to increased funding for maintenance, more imaginative management and better planning by DOC's central office could help alleviate some of the Department's maintenance problems.

Prison Maintenance Has Improved

Prison maintenance has improved substantially since our last review in 1985. Numerous structural, electrical, and plumbing deficiencies identified in our previous report have been addressed.

Our 1985 audit identified a variety of life-threatening conditions, ranging from a malfunctioning fire alarm system to structurally unsound buildings. As identified in Table 1, pages 6 through 8, unsafe structures have been repaired or replaced, and some electrical and plumbing systems have been upgraded. For example, the cracked and deteriorated catwalk that posed a life-safety threat in the Central unit at ASPC-Florence has been repaired.

TABLE 1

STATUS OF MAINTENANCE PROBLEMS IDENTIFIED
IN AUDITOR GENERAL REPORT NO. 85-13

Facility	Problem	Status
STRUCTURAL PROBLEMS		
ASPC - Florence, Central unit Tunnel	Walls were severely cracked and deteriorated, and the tunnel could have collapsed. Potential for electrocution from broken conduit and frayed wires. Standing sewage in south tunnel.	Walls have been repaired and the tunnel has been closed. Conduit has been repaired and sewage has been removed.
ASPC-Florence, Central unit Walls and Catwalk	Walls and catwalk were cracked and deteriorated, creating a life-safety threat.	Walls and catwalk have been repaired.
ASP-Safford New Gym	Anchor bolts were missing. Foundation was deficient and could have collapsed in a strong wind.	Additional structure has been built adjacent the gym, which should reduce wind effects.
ASPC-Florence, Central unit Tower 13	Foundation was cracking, stairs were unsafe, rebar was exposed, and the guard station was a fire hazard.	Tower has been replaced.
ASPC-Florence, Central unit Maintenance Shop	Beams and columns were cracked, and the roof and exterior were dilapidated. Building was structurally unsound and a life-safety threat.	Conditions remain unchanged.
ASPC-Florence, Wall of Sally Gate 5	Wall was cracked, lacked reinforcement, and could have collapsed.	Wall of Sally Gate 5 has been replaced.
ASP-Safford Education Building	Building was aged and deteriorated: water damage, roof improperly constructed, no fire alarm or emergency lighting.	Building has been demolished.
ASP-Safford Dorm 3	Foundation was settled and cracked, roof was deteriorated, and walls were out of plumb.	Dorm 3 has been demolished and replaced.
ASP-Safford Hobby Building	Building had numerous code violations and overall structural deterioration.	Some exterior renovation and roof repair has been done. All code violations have been addressed.
ELECTRICAL PROBLEMS		
ASPC-Florence Central unit	Conduit and equipment in cellblocks 3 and 4 was severely corroded from dripping water, creating the potential for electrocution.	Conduit has been partially replaced. Leaking plumbing has already deteriorated the repairs that were made.

TABLE 1 (Con't)

Facility	Problem	Status
ELECTRICAL PROBLEMS Con't		
ASPC-Florence East unit	Underground system was not waterproof. Potential for power loss and electrocution existed.	Access manholes have been raised to prevent water from collecting in the bottom.
ASPC-Florence Central unit	Switch gear needed to be rebuilt. Sections of the unit could have been without electricity during a power outage.	Switch gear has been rebuilt.
ASPC-Florence Central unit	Telephone system needed automatic switching.	Telephone system now has automatic switching.
ASPC-Florence Central unit Cellblock 5	Electrical system showed rust and corrosion. Conduits were old and unsafe.	Electrical conduit has been replaced and made watertight.
ASPC-Florence East unit	Emergency generators did not have enough capacity.	Emergency generators now have sufficient capacity.
ASPC-Florence East unit	Back-up power supply needed for security computer.	Back-up power supply needs are being met by emergency generators.
ASPC-Florence East unit	Fire alarm system malfunctioned.	Fire alarm system has been repaired.
ASP-Safford	Construction of 13KV, 3-phase line needed to be completed.	Design is in progress as part of new project.
ASP-Safford upper Pump House	Panels were old and needed to be rewired.	Pump house has been demolished.
ASP-Safford, Garage Area	Wiring was inadequate and load requirements were unknown.	A project request for renovation has been submitted.
ASP-Safford	Disconnect switches were improperly housed and inadequate.	Dormitory has been demolished.
PLUMBING PROBLEMS		
ASPC-Florence, Central unit	Underground pipes leaked profusely and layout was unknown.	Two-thirds of piping has been replaced.
ASPC-Florence, Central unit	Systems severely deteriorated in cellblocks 1, 2, 3, and 4.	Systems in cellblocks 1 and 2 have been renovated. Systems in cellblocks 3 and 4 are still deteriorated but funding has been allocated for repair
ASPC-Phoenix, Women's Center Entire Complex	Pipes leaked and were uninsulated. Fixtures were inadequate.	Pipes in east section have been replaced. The rest of the complex is still deteriorated.

TABLE 1 (Con't)

Facility	Problem	Status
PLUMBING PROBLEMS (Con't)		
ASPC-Phoenix, Women's Center North Complex	Hot and cold water distribution lines were old, leaky, and poorly insulated. Some fan coils needed to be replaced.	Problem still exists.
ASPC-Phoenix, Women's Center Administrative Mechanical Room	Boiler and stack needed to be replaced. Asbestos needed to be removed from piping, and refrigeration compressor needed repair.	Boiler and stack have been repaired.
ASPC-Phoenix, Women's Center Main Boiler Room	Boiler needed to be replaced, piping needed to be insulated, and a new cold water control system needed to be installed.	Boiler is still in the same condition.
LOCKING SYSTEM PROBLEMS		
ASPC-Florence Central unit Cellblocks 2, 3, and 4	System did not allow individual cell doors to be opened. Doors could be opened only in multiples. Locking control panels were accessible to inmates.	Systems in all three cellblocks have been repaired. Control panels are no longer accessible to inmates.
ASPC-Florence, Central unit Cellblocks 5, 6, and 7	Electronic control panels malfunctioned and communications were inadequate.	Electronic control panel and communication problems have been rectified.
ASPC-Perryville All units	Locking system control panels had electrical problems. Inmates could jam deadbolts open.	Condition remains unchanged.
WASTEWATER TREATMENT		
ASPC-Perryville	System lacked adequate capacity.	Problem resolved by connecting system to City of Goodyear wastewater treatment center.
HEATING, VENTILATION, AND AIR CONDITIONING		
ASPC-Phoenix Alhambra	System capacity was reduced by clogged grills, damaged ductwork, and the lack of adequate controls. System required balancing.	Conditions remain unchanged. Repair estimates are being compiled.

Despite Improvements Serious Maintenance Deficiencies Persist At Correctional Facilities

Despite improvements, major repairs and renovations are still needed at the State's prison complexes. Our audit identified numerous ongoing maintenance deficiencies, some life threatening, at the State's correctional facilities. These ongoing deficiencies appear to be the result of limited funding for building renewal and capital improvements.

Ongoing maintenance deficiencies - Despite the improvements cited in the previous section, serious maintenance deficiencies continue to plague DOC's correctional facilities. The Department has repeatedly identified a wide range of maintenance problems including the following:

- ASPC-Douglas - Deficiencies in one unit's electrical system present a serious threat to life and safety. Electrical panels, breakers, and wiring short-circuit and burn out.
- ASP-Fort Grant - The kitchen facility is in violation of applicable life-safety, and health codes. Electrical and plumbing systems are deteriorating. Adequate fire exits and extinguishing systems are needed to reduce the life-safety threat.
- ASP-Safford - The electrical distribution system is operating beyond capacity, which is a violation of the electrical code. Potential danger was confirmed by audit staff who observed melted electrical insulation due to system overload, which caused a small fire in several of the electrical manholes.
- ASPC-Florence - Fire alarms, a sprinkler system, a smoke evacuation system, and electronically operated exit doors are all needed to reduce the life-safety threat in the Women's housing units.
- ASPC-Florence - The support building at the Women's prison contains inadequate electrical wiring and the lack of a fire alarm system, creating a life-safety threat.
- ASPC-Florence - Deteriorating electrical and plumbing systems have left the Central unit's kitchen in violation of electrical and plumbing codes.

State funding - Serious maintenance deficiencies persist at DOC facilities because funding has not kept pace with the prisons' maintenance needs. Prison maintenance is financed through a variety of funding mechanisms, including (1) building renewal and capital

improvement appropriations, (2) Endowment Fund appropriations[1], and (3) operating appropriations. Combined, all of these funding sources have not provided sufficient monies to forestall continued deterioration of the State's prison facilities.

For example, in 1986 the Legislature initiated the building Renewal Program, a formula-driven funding program designed to ensure continued maintenance of the State's capital assets, including correctional facilities. However, funding for the program has decreased steadily since its inception, and in fiscal year 1990-91, Statewide funding for the program was less than 25 percent of the formula amount. DOC was allocated nothing for building renewal during that fiscal year.

The Department has also had difficulty obtaining funding for capital improvement projects. Since fiscal year 1986-87, DOC has never received more than 27 percent of its requested appropriation. Moreover, appropriations have been as low as 1 percent of the requested amount. Although our analysis on page 13 indicates that DOC's requests for some projects may be inflated, recent funding levels demonstrate the State's reluctance to fund major maintenance projects.

Additionally, it appears that funding for maintenance will become even more restrictive. DOC has historically had the freedom to use almost $1 million a year in Endowment Fund monies to address maintenance priorities. However, the fiscal year 1991-92 budget limits DOC's ability to use these monies for maintenance. The recently enacted budget substitutes $936,000 in Endowment Fund monies for agency expenses traditionally funded with a general appropriation.

Even if DOC substantially increased its commitment of operating monies for maintenance, it is doubtful the agency could offset the lack of building renewal and capital improvement appropriations, and the loss of

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(1) Earnings on State lands and interest on the investment of the permanent land funds are appropriated in compliance with Section 25 of the Enabling Act and the Constitution to be used for the support of State penal institutions and reformatories.

monies provided by the Endowment Fund. Moreover, there is a limit to the amount of operating monies that can be diverted to maintenance. The Department already allocates a larger portion of its operating budget to maintenance than it did at the time of our previous audit. At some point, increased reliance on operating monies will negatively impact the other activities these monies support.

Ultimately, the State risks higher costs by deferring major maintenance and renovation projects. With the help of our volunteer consultant, we identified several cases in which continued deterioration and higher anticipated costs for labor and materials appear to have increased total renovation costs. For example:

- Estimated costs for housing repairs at ASP-Fort Grant have increased 12 percent since fiscal year 1989-90, from $491,000 to $550,000 in fiscal year 1991-92.
- Cost estimates for inmate housing renovations at ASP-Safford have also increased 12 percent, from $260,000 in fiscal year 1988-89 to $292,000 in fiscal year 1991-92.

Arizona's prisons will continue to deteriorate in the absence of major repairs. Since the costs of making these repairs is also likely to increase as needed work is deferred, the Legislature should consider options for providing additional maintenance funding.

More Imaginative Management And Better Planning Needed To Mitigate Funding Constraints

Because DOC is not likely to obtain full funding for maintenance in the near future, it is important that the Department (1) explore ways to more effectively utilize its present resources and (2) take steps to more adequately prepare maintenance budget requests.

DOC needs to minimize costs - Given the current fiscal environment and the scope of its maintenance needs, it is necessary for DOC to maximize available resources through innovative solutions to its maintenance problems.

Commendably, DOC responded to the criticism contained in our previous audit report that it was not adequately identifying maintenance requirements. The Department has included at least 90 maintenance policy issues in its capital improvement plan in each of the last five fiscal years. Moreover, since the time of our last review, DOC has commissioned a study of the 55 most-used buildings at ASPC-Florence and identified over $19 million in maintenance deficiencies.

DOC needs to build upon this achievement by more actively pursuing innovative ways to minimize maintenance costs. According to personnel within DOC's Facility Management Bureau (FMB), they have sought to minimize maintenance costs, but time and resource constraints have prevented a more concerted effort. Our analysis indicates a more comprehensive review and evaluation of maintenance proposals would enable DOC to take greater advantage of cost-saving opportunities. FMB staff agreed with the assessment. For example:

- The Department requested $1.2 million for kitchen repairs in the Central, North, South and Women's units at ASPC-Florence. Rather than pursue funding for those repairs, our consultant recommends DOC consider the feasibility of (1) preparing all food at the central kitchen being built for the adjacent Eyman complex, and (2) converting the Florence facilities into serving kitchens only. Our consultant estimates this could result in cost savings of almost $500,000 in construction and equipment. Further study is needed, however, to determine whether the operational savings associated with centralization would offset additional costs resulting from the need to set up a food distribution system.

- The Department requested over $1.7 million for roofing repairs in 1992. Rather than pursue funding for these repairs, our consultant recommends DOC hire a permanent three-man crew and make a one-time expenditure of approximately $80,000 for a roofing truck equipped with foam spray and hot tar equipment. Annual repairs would be limited to those roofs in the worst condition. Material costs would be approximately $150,000 a year. Labor costs could be minimized by using inmates.

DOC's Facilities Maintenance Bureau is in the best position to identify and coordinate cost-saving measures such as those described above. All major maintenance and renovation projects must be processed through and approved by the Bureau. DOC should take steps to insure the Bureau plays a leading role in maximizing available resources through cost-effective solutions to maintenance problems.

Evaluation of maintenance proposals - In some cases maintenance and renovation projects endorsed by FMB overstate the Department's needs, are unnecessary or could be performed more cost effectively. The FMB is responsible for evaluating proposals for major maintenance and renovation projects. However, we found FMB does not always screen these proposals adequately.

For example, we found that a small percentage of the maintenance projects approved by the FMB each year are either not necessary or overstate the Department's need. According to our consultant, nearly $3.7 million or 10.5 percent of DOC's fiscal year 1990 capital request consisted of these kinds of maintenance projects. The same was true for almost $1.2 million or 3 percent of DOC's fiscal year 1990-91 capital request.

Although many of these projects were dropped from subsequent budget requests, our analysis indicates, and FMB staff agree, that some maintenance needs continue to be overstated in budget requests. For example, the following are included in DOC's fiscal year 1991-92 budget request:

- A $210,000 budget request for lightning rods at ASPC-Winslow. Although lightning rods might be ideal, our analysis indicates that for a substantially lower cost, surge protectors would service almost as well.

  An $815,000 budget request to completely re-roof all buildings at ASPC-Perryville. Rather than re-roof the entire facility, DOC should consider repairing only those few roofs currently leaking, while placing the rest of the facility's roofs on a cyclical routine maintenance program.

Likewise, with the help of FMB staff we found instances in which proposed maintenance projects could be performed at lower cost than the FMB's approved estimates. For example, our analysis determined the following:

- A fiscal year 1991-92 request of $745,000 to upgrade the electrical system at the Gila unit at ASPC-Douglas could be completed for about $425,000. According to our consultant, costs for replacing breakers, panels and wiring were all overstated by the Department.

- A fiscal year 1991-92 request of $238,000 to identify leaks to underground storage tanks at various sites could be completed for about $150,000. This estimate is based on the prior experience of our consultant, as well as a phone estimate given by a local contractor.

By overestimating maintenance costs and approving needless maintenance and renovation projects, the FMB increases DOC's difficulty in securing State funding for truly necessary maintenance and renovation projects. Therefore, it is important that the Department take steps to ensure FMB adequately reviews and evaluates proposals for maintenance projects before presenting them to the Governor and the Legislature.

RECOMMENDATIONS

1. The Legislature should consider providing sufficient monies to adequately maintain State prisons.

2. DOC should take steps to ensure FMB plays a leading role in maximizing available resources through cost-effective solutions to maintenance problems.

3. DOC should ensure FMB specifically reviews the justifications for each maintenance project requested, and analyzes proposed budgets to ensure requests are reasonable and cost efficient.

FINDING II

ALTHOUGH SOME DEFICIENCIES WERE NOTED, THE PRISON CONSTRUCTION PROGRAM APPEARS TO BE ADEQUATELY ADMINISTERED

Although the prison construction program appears to be adequately administered, construction management could be improved in some areas. The Department of Administration (DOA) has built new prisons in a relatively inexpensive and timely manner since assuming responsibility for the prison construction program in 1985. However, our review did reveal several management problems in constructing Arizona's prisons.

Prisons Have Been Constructed In A Relatively Inexpensive And Timely Manner Since 1985

Since DOA assumed responsibility for the prison construction program, new facilities have been built at low cost and generally on time. Arizona's prison construction costs are less than those of other states. Moreover, new facilities have been completed on or close to designated completion dates.

Construction costs - Prison construction costs in Arizona appear low. Forced by legislative appropriations to construct prisons for less money than originally projected, DOA has conformed to these austere budgets, although the impact on prison operations is uncertain. As a result, prisons in Arizona are built for substantially less than prisons built by other states and the Federal government.

Legislative appropriations have generally necessitated that DOA build prisons at a lower cost than initially estimated. We found that for projects completed since 1985, legislative appropriations have averaged 18 percent less than the original construction estimates submitted by DOC. In one instance, the appropriation was 22 percent less. Table 2, page 16, shows the original construction estimates, the legislative appropriations, and the percentage of difference between the estimates

TABLE 2

COST ESTIMATES AND APPROPRIATIONS FOR NEW PRISON CONSTRUCTION 1985-1991(a)

Location	Original Estimate	Legislative Appropriation	Percentage of Difference
ASPC-Douglas	$ 1,872,000	$ 1,473,000	- 21%
ASPC-Phoenix-ACW	1,225,000	1,225,000	0
ASPC-Phoenix-Flamenco	1,500,000	1,265,300	- 16%
ASPC-Tucson, Winslow, Yuma, Florence	88,675,146(b)	72,000,000	- 19%
ASPC-Florence-SMU	4,300,000	4,300,000	0
ASP-Safford	970,000	963,547	- 1%
ASPC-Winslow	2,243,000	1,943,823	- 13%
ASPC-Winslow	380,400	380,400	0
ASPC-Winslow	17,228,600	13,440,000(c)	- 22%
ASPC-Perryville	8,100,000	7,117,000	- 12%
ASPC-Florence-Rynning	33,471,900	26,573,000(c)	- 21%
TOTAL	$159,966,046	$130,681,070	- 18%

(a) Neither DOC nor DOA were able to provide original estimates and legislative appropriations for some of the older construction projects completed between 1985 and 1991--two Safford projects, 48 and 100 beds; ASPC-Tucson, 208 beds; two Florence projects, 118 and 104 beds; and three Douglas projects, 620, 800, and 48 beds. Therefore, we excluded these projects from the table.

(b) Preliminary estimates for the individual sites were not prepared. The estimate is as of June 1984, subsequent to receiving the January 1984 appropriation of $72 million for construction of the four facilities. Legislation did not specify individual project limits.

(c) Additional funding of $1.6 and $2 million was appropriated for Winslow and Rynning, respectively, after construction bids demonstrated that these facilities could not be constructed with the initial appropriations. These amounts are not included in the table.

Source: Prepared by the Office of the Auditor General staff, based on information obtained from the Department of Corrections and the Department of Administration.

and appropriations for projects constructed by DOA since the agency assumed this responsibility in 1985. As shown in Table 2, by appropriating at lower levels, the Legislature is forcing DOA and DOC to construct facilities at a lower cost.

DOA has largely built prisons within budgets specified by legislative appropriations. Original appropriations totaled $130,681,070 for 14 completed projects overseen by DOA.[1] Since 1985, DOA has spent $134,216,152, only 3 percent more than original outlays. Additional funding was requested in only 2 of the 14 projects--a 400-bed, medium-security facility at Winslow and an 800-bed, medium-security facility at Florence. In reviewing these cases, additional funds were requested only after construction bids made it clear that the facilities could not be constructed within the appropriated amount. However, these facilities were constructed within budget as augmented by the additional funding. In one other instance, DOA managed to return approximately $73,000 of unused money. Thus, DOA has managed to build prisons remarkably close to legislative appropriations.

Over the years, DOA and DOC have managed to stay within budget by employing several cost-cutting strategies:

- <u>Reduced project scope</u> - A unit may be reduced in total square footage for housing, support, and program space to lower construction costs. For example, to meet budget requirements, three buildings at Winslow (the library, prison industries, and vocational training buildings) were reduced in square footage.

- <u>Other cost reduction measures</u> - Other cost reduction measures, such as using lower quality or alternate materials in place of those originally prescribed, have been utilized in a number of projects. For example, toilets at three housing units in Rynning at ASPC-Florence were changed from stainless steel to porcelain to reduce construction costs.

- <u>Building prioritization</u> - DOC and DOA may choose to prioritize buildings to be constructed if initial construction estimates appear to exceed appropriations. When construction documents are released for bid, lower priority buildings are specified as an alternate to the base bid. This allows DOA the flexibility of constructing or not constructing the building depending upon the budget.

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(1) Legislative appropriations could not be obtained from DOC or DOA for 8 of 22 projects completed since 1985. Only the 14 projects in which appropriations and total cost could be determined are discussed.

DOC officials note that these cost-saving measures have the potential to impact prison operations adversely. Two such impacts were noted.

- Scope reduction at SMU - The original square footage at the Special Management Unit (SMU) in Florence was reduced as a cost-saving measure. SMU was originally designed to contain 768 single-cell units. However, one wing of 192 beds was double bunked to save money. By changing the configuration, the required 768 beds were constructed within budget. Maximum-level inmates currently account for 41 percent of the 192 double-bunked beds. According to a DOC official, double bunking maximum-security, special management inmates is very inappropriate and dangerous. However, DOC has yet to have serious management problems at SMU.

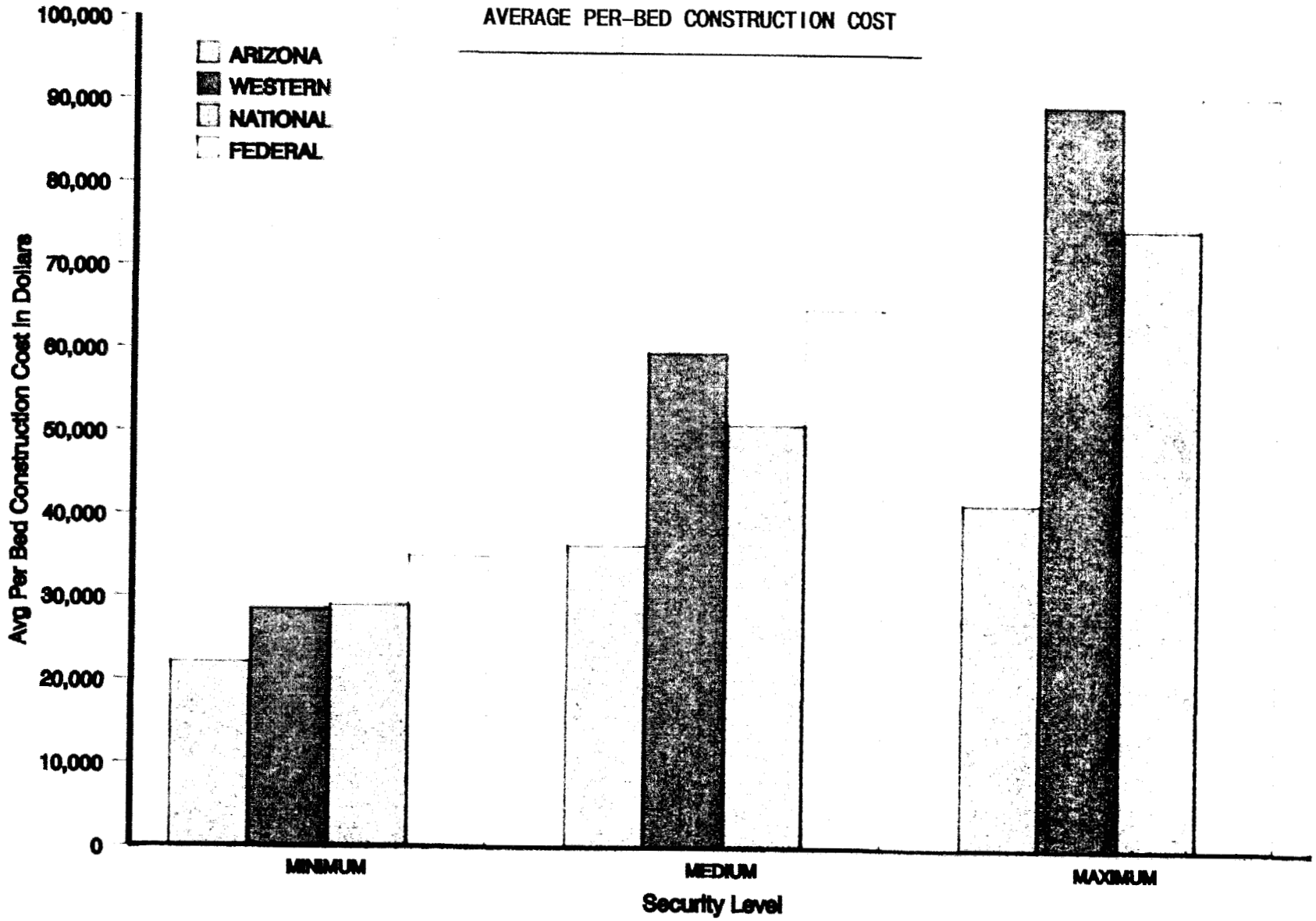
- Rynning lockup building not constructed - The Rynning lockup building was bid as an alternate to base bids and, due to lack of funds, was not constructed. DOC is using 5 to 10 beds at SMU for Rynning inmates requiring lockup facilities. Thus these beds are not available for SMU inmates.

Additionally, cost reduction measures were used extensively throughout the $72 million program. The $72 million program was a series of four construction projects for a total of 2,412 beds at Tucson, Winslow, Yuma, and Florence. Intense cost-cutting measures were utilized at Florence-SMU and Winslow in an attempt to bring bids within budget. Costs were reduced at Florence-SMU by $680,000 and at Winslow by about $430,000. According to a DOA official, this program set the tone for low-budget facilities. While it does not appear that these cost-saving measures have significantly impacted prison operations to date, the long-term consequences of these actions are less certain and were not studied in detail.

Arizona's ability to build low-cost prisons is being noted by a soon-to-be-released national study by the United States General Accounting Office (GAO). GAO is conducting a cost comparison study of Federal and state prisons. The study reviews the construction and operational costs of prisons in 28 states and 4 Federal prisons. A case study compared construction costs between the Federal Correctional Institution in Phoenix and ASPC-Winslow. The GAO study concludes that Arizona builds "no frills" prisons at costs below that of the Federal system and Western states specifically. As shown in Table 3, page 19,

TABLE 3

AVERAGE PER-BED CONSTRUCTION COST



Source: Prepared by the Office of the Auditor General staff, based on information obtained from the 1990 Corrections Yearbook and the Department of Administration.

Arizona's average construction cost per bed is 24 to 44 percent lower than the national average for various security levels. Thus, as a result of the fiscal constraints under which the construction program has been operating, Arizona prison construction is relatively inexpensive compared to other states and the Federal government.

Timeliness - Prison construction has become more timely in recent years. Although the first series of projects administered by DOA, mainly the $72 million program described earlier, did not meet designated completion dates for individual projects, all projects were completed by July 1988, the date specified in the original appropriation. According to DOC and DOA officials, the original $72 million program schedules were very optimistic given the size of the projects. Contract negotiations with the project management firm and the architects were the primary reason for the delay on the $72 million program. Moreover, construction bids on three of the four projects in the $72 million program came in over budget requiring additional time to make sensitive cost-cutting decisions. Although these projects were late, the reasons for the delay appear justifiable, and projects were still completed prior to the legislative deadline.

Moreover, DOA's timeliness has improved slightly since completion of the $72 million program in 1988. Although minor delays occurred in three of six projects completed since 1988, all three projects were substantially completed two months after the originally scheduled completion date. Initial contract negotiations with the architect and general contractor were the main reason for the delay in the three projects. Delays due to weather were also granted on two projects, thus extending the completion date.

According to a DOA official, the completion time for recent projects is slightly less than the completion time for the $72 million program. A comparison of the more recently completed Rynning Level 4, 800-bed project and the Tucson Level 4, 744-bed project demonstrates this improvement. Construction of the Tucson facility, at a cost of $22.9 million for 744 beds, took 35 months from the date of legislative

appropriation to the date of the Certificate of Substantial Completion.[1] The recently completed Rynning project, at a cost of $28.5 million for 800 beds, was completed in only 31 months. Thus, overall the timeliness of recent prison construction projects has improved even though individual projects may be delayed slightly.

Although Generally Adequate, DOA Could Improve Its Management Of The Prison Construction Program

Although DOA's performance appears generally adequate, some shortcomings in the management of the prison construction program were noted. For example, a review of several recently completed projects revealed some weaknesses in the construction process, such as inadequate oversight of the architect, inadequate monitoring of inmate construction, untimely follow up on outstanding construction items, and limited involvement in warranty issues.

As part of our audit, we reviewed in detail three of the nine facilities completed by DOA since 1988: an 800-bed, medium-security facility and a 960-bed, maximum-security facility, both built at Florence; and a 400-bed, medium-security facility at Winslow. These facilities comprise 64 percent of the beds built and 88 percent of the dollars spent for projects completed since 1988.

Inadequate oversight - DOA did not adequately oversee the on-site performance of the architectural firm managing one of the three construction projects we analyzed. During our review, we found that DOA may have paid one firm for up to 1,600 hours of on-site services that had not been provided, because the Department does not routinely track and verify that firms are providing the levels of service specified in the contract.[2] Instead, payments are made monthly at a predetermined rate.

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(1) The date of a Certificate of Substantial Completion is the date certified by the architect that construction is sufficiently complete in accordance with contract documents so the owner can occupy for the intended purpose.

(2) DOA is currently negotiating a partial refund from the architect. However, DOA notes a refund will not compensate for the lack of needed construction oversight.

Our review revealed an additional weakness in DOA's oversight of architectural firms. DOA has no formal mechanism for evaluating an architect's past performance and incorporating it into the agency's selection process for upcoming projects. Consequently, an architectural firm with a history of poor performance could be rehired by the State, because no record of the firm's past effectiveness is available to those reviewing proposals.

Inadequate monitoring of inmate construction - DOA also needs to review its procedures for managing inmate-labor projects to ensure proper supervision.

A lack of supervision and monitoring of the inmate-labor program at the Florence-Rynning unit resulted in structurally deficient buildings. Three inmate-constructed buildings overseen by DOA lacked sufficient steel reinforcement bars (rebar). These buildings were approximately 45 to 50 percent complete before DOA fully addressed the problem, even though DOA had prior knowledge of the deficiencies. Two of the three deficient buildings required remedial repairs, and the third was demolished and reconstructed.

Since these incidences, a temporary quality control position has been established to monitor the repair and reconstruction at Rynning and oversee the new Safford 250-bed, inmate-construction project. However, this position is funded out of the individual construction budget, and once construction is complete, the position will be terminated. Due to the statutory requirement (A.R.S. §41-1651) to utilize inmate labor to the fullest extent, DOA needs to evaluate these trial projects to determine if the quality control position should be continued on future inmate-construction projects and whether the position should be permanent.

Untimely follow up on outstanding construction items - "Punch list" items[1] identified on the Certificate of Substantial Completion were not

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(1) A "punch list" is created by the architect and general contractor at the completion of the construction phase. The list is attached to a Certificate of Substantial Completion that certifies the building is substantially complete for its intended purpose, except for the items on the punch list. DOA allows the contractor no longer than 30 days to complete the items on the punch list.

addressed by the general contractor in a timely manner at SMU. Various punch list items were outstanding five months after identification in one building.

DOA has had two options to remedy a contractor's lack of performance: (1) revoke the Certificate of Substantial Completion and assess liquidated damages against the general contractor, or (2) terminate the contractor and require the bonding company to ensure that the work is completed as specified in the contract. However, according to a DOA official, due to the demand for beds, these time-consuming options are not feasible.

As a solution to the problem, DOA has begun to include a clause in the contractor's agreement stating that liquidated damages will be assessed if final completion can not be declared due to outstanding punch list items. To date, DOA has used this statement in only one contract, early site grading at the Florence-Cook unit; however, according to a DOA official, future prison construction contracts will contain the clause.

<u>Limited involvement in warranty issues</u> - The State appears limited in its ability to obtain warranty repairs and corrections. DOA does little to ensure that contractors honor their warranties. All projects contain a one-year warranty beginning on the date of the Certificate of Substantial Completion. DOA's only contractual role in warranty matters is to inspect the facility at the eleventh month. Otherwise, DOA is involved only as a last resort if DOC is unable to get the general contractor to perform warranty repairs. Thus, DOC must try to address all warranty problems even though the Department has no contractual relationship with the builder. Due to DOC's on-site presence, DOA believes that DOC is in the best position to address warranty issues. However, DOC lacks the contractual relationship with the contractor to enforce contractor performance.

To address this problem, officials in both departments would like a percentage of monies set aside up front in contract negotiations to address warranty issues. This would enable DOA and DOC to enforce general contractor performance in a timely manner by

threatening nonpayment of warranty monies upon expiration of the warranty period. However, DOA officials warn that this would probably result in contractors submitting higher bids, thus increasing construction costs.

RECOMMENDATIONS

1. DOA should consider ways to regularly review on-site service levels provided by the architect in order to ensure the adequacy of the architect's performance.

2. DOA should consider creating a formal mechanism for evaluating an architect's past performance and incorporating it into the selection process for future projects.

3. DOA needs to evaluate whether the temporary quality control position created to monitor the inmate labor program should be made permanent.

4. DOA should continue its plan to incorporate a liquidated damages clause in future prison construction contracts to address timely completion of punch list items.

5. DOA and DOC should consider including in the contractor's construction agreement a fixed percentage to be retained to ensure warranty repairs are made.

OTHER PERTINENT INFORMATION

During our audit, we compiled data on DOC's use of standardized design and construction.

A.R.S. §41-1651 requires DOC to utilize standardization in design and construction wherever it is economically feasible. Constructing prototypical buildings has a number of advantages over individually designed facilities. California has utilized prototypes in its prison construction program and claims several benefits. For example:

- You know what you are getting - Once a prototype building has been designed, built, and utilized, flaws are identified. These problems can then be corrected in subsequent projects.
- Reduced design fees - Once the initial design fee is paid, the only future costs for design are to adapt buildings to the specific site.
- Reduced schedule - Since project design often requires as much time as construction, the use of prototypes can substantially reduce design time. Because of inflation, the time saved can also mean cost savings.
- Reduced construction costs - Because the problems encountered the first time can be corrected before a facility is built again, the likelihood of cost and schedule overruns can be reduced. In addition, the risk factor for contractors is decreased the second time the same design is constructed.
- Staffing familiarity - If many buildings of the same design are constructed throughout the system, staff familiarity with the operation of buildings and procedures is facilitated.

California appears to be the only state with written procedures on standardized design and construction.

The development and use of standard design and construction in Arizona has evolved over time. The Tucson-Rincon housing unit, completed in 1979, appears to be one of the earliest examples of prototypical design usage. Arizona's approach to prototypes has been to select certain building plans and enhance or adapt them in subsequent construction projects. For example, the Level 4 housing units have been through three adaptations. These units were first built in Tucson's Cimarron facility.

The same plans were then used in constructing the Winslow housing units. The newly completed Rynning unit is the latest application of this design. As DOC becomes aware of operational inefficiencies, enhancements are incorporated into the design for subsequent construction projects. For example, the Rynning housing units were modified to strengthen control-room security, visibility over inmates, and staff safety.

<u>Use of prototypes</u> - To date, DOC has used standard designs and construction only to a limited degree. The majority of DOC construction projects have involved the expansion of current facilities where full usage of prototypical designs is not always possible. When expanding a site, buildings have to be tailored to the existing structures. Moreover, prototypical designs may not be operationally feasible. For example, a prototypical plan was recommended for the design of the administrative and support facilities at Florence-SMU. However, based on site constraints and security requirements, it was determined that the prototypical design was unusable. Thus a new design was developed. According to a DOA official, savings from the use of prototypes is not readily apparent in Arizona's prison construction program because much of the new construction has been the expansion of older facilities.

However, with the construction of the Eyman complex at ASPC-Florence, DOC is approaching the point where it can more extensively use prototypical design and construction. Prototypes may produce greater design savings if used for construction of entire complexes because no adaptation to existing facilities is required. Thus, the construction of future complexes should be able to fully utilize the standard design of the Eyman Complex. By constructing entirely new facilities, the benefits of prototypical designs could be more fully realized.

One drawback in using prototypical designs may be that other, possibly more economical designs are not used. For example, during the design stage of the Florence-Cook and Safford facilities, DOC and DOA officials reviewed prison designs in other states to determine if a cheaper, more efficient Level 3 facility could be constructed. A Connecticut "bow-tie" design was found to be a possible alternative for the DOC prototype. A

cost-savings analysis showed that construction of the bow-tie design cost approximately 3 to 4 percent less than the construction of DOC's original prototypical design. For planning purposes, DOC also developed a compressed design of the prototype plan as a possible construction alternative. This compressed design cost approximately 1 percent less to construct than the Connecticut bow-tie design. Moreover, the operational costs associated with the bow-tie design were 23 percent less than both DOC designs. However, according to DOC and DOA officials, due to construction budget constraints and the statutory mandate to use standard designs, the bow-tie design option was abandoned and the reduced prototypical design was used.

Arizona Department of Corrections

1601 WEST JEFFERSON
PHOENIX, ARIZONA 85007
(602) 542-5536

FIFE SYMINGTON
GOVERNOR

SAMUEL A. LEWIS
DIRECTOR

September 23, 1991

Douglas R. Norton
Auditor General
2700 North Central, Suite 700
Phoenix, Arizona 85004

Dear Mr. Norton:

The attached comments are provided for inclusion in the text of the published Performance Audit of the Department of Corrections, Facilities Construction and Maintenance.

The Department concurs with most of the findings and recommendations contained within the report. Our responses are directed at those areas in which we either did not agree with your recommendations or wanted to add clarification to the information presented in the report.

Since the primary responsibility for administration of prison construction belongs to the Department of Administration (DOA), we addressed only a limited number of items in Finding II. You may wish to obtain comments directly from the Director of DOA on this area of your audit report.

Sincerely,

Samuel A. Lewis
Director

SAL/MS/ms

Attachment

Summary Page ii

Paragraph 2; Bullet 1; The concept of using the ASPC - Eyman Central Kitchen facility to feed the ASPC - Florence prisons has been under study by the Department ever since the legislature funded the kitchen construction. While such a concept may save some renovation costs within the existing Florence prisons, the Department concurs with the Auditor General that a more in-depth analysis needs to be completed before this concept is initiated. Following are some of the reasons the Department feels this recommendation may be premature:

- Operational issues such as transportation of food to the other units increase operating costs. Additionally, other costs would be incurred to purchase vehicles and the hot/cold carts to keep food at proper temperatures. A staffing analysis would reveal a need for additional staff to transport the prepared food, as it would be unwise to allow inmate drivers into and out of several level 4 and 5 facilities. The likelihood of an inmate escape would increase with the several additional trips needed daily to deliver the food.

- Operationally, it may not be wise to provide food services to the six kitchens at ASPC - Florence and the four kitchens at ASPC - Eyman from one location. Should an inmate disturbance occur at the Central Kitchen or the unit that supplies the inmate workers to the one Central Kitchen facility, it would become difficult to supply food to all ten prisons. However, if more than one full production kitchen was operational in the Florence area, food preparation could be temporarily increased at the other production kitchens.

- The Department believes the Auditor General's cost saving estimate may be overstated because the majority of all associated construction costs involve life/safety improvements to roofing, electrical, plumbing and fire systems, which must be completed regardless of whether the kitchen is used as a production or service kitchen.

Page ii

Paragraph 3; Sentence 1; The Department maintenance budget requests are adequate, accurate, and justifiable for its current building system of over 3.6 million square feet. However, given the future expansion of the system, coupled with the increasing complexity of environmental and life/safety codes, the Department requires and will continue to request additional staff to adequately analyze needs at facilities and prepare the requests. At the time of the 1985 audit, the Department had approximately 2.1 million square feet of buildings and utilized one staff part time to prepare the requests. Currently nearly all of the time of one staff is used to prepare the budget requests.

Page ii

Paragraph 3, Sentence 2; The Department adamantly disagrees with the statement that " . . . FMB approved maintenance and renovation projects that were unrealistic, unnecessary . . . " None of the examples given in this report substantiate this statement. The Department requested that the Auditor General provide specific examples and they did not. The Auditor General's consultant cites two examples regarding lightning protection and roof repair which are discussed in detail in our response to pages 12 and 13 of the Auditor General's report and do not represent unrealistic or unnecessary projects.

Summary Page iii

Paragraph 1; The Department agrees with the Auditor General that the impact on prison operation was not studied in detail. The issue, however, of the impact of not fully funding prison construction is certain. By not fully funding all construction needs such as water softening equipment at ASPC - Winslow, the life expectancy of all built-in equipment such as hot water heaters/ boilers and related kitchen equipment is significantly reduced. This would further increase the maintenance costs of the prison.

Summary Page iii

Paragraph 2; The Department concurs with the Auditor General's findings that the average cost per bed is significantly less than the national average. The Department, however, believes the Auditor General is remiss in not pointing out that the primary reason the costs are reduced is that the Department double bunks a significantly higher percentage of Level 3, 4 and 5 beds than does other jurisdictions.

Other contributing factors are:

- ADC defines the scope of work.
- ADC has reduced the gross square footage of all prison facilities.
- Clear ADC direction to design austere, but functional prison facilities which maximizes security and minimizes long term operational costs.
- Double bunking reduces construction costs, yet requires additional staffing, which historically has not been funded.
- Arizona is a "right to work" state.

Page 6

Table 1; The Department has completed 20 projects of the 32 projects referenced in Table 1. All of the deficiencies were included in subsequent Capital Renewal Budget Requests from FY 1986 on, however, funding has not been provided for 12 of these projects. The continued reduction of renewal funds coupled with the legislatively mandated use of Endowment Funds for line item capital or operating use have removed all departmental discretionary funds. Corrections to deficiencies at the ACW unit have been kept to a minimum due to the passage of HB 2502 in FY 86 which requires that the prison and property be sold. All immediate problems have been handled using other operating, endowment or renewal funds when and as available.

Page 10

Paragraph 2; The Department disagrees with the statement that some requests for funding may be inflated. Estimates of construction costs are typically prepared using specialized consultants or historical data of construction costs. Variables such as changing building codes, inflation, and the economy will always impact the accuracy of these estimates. A reasonable practice is to budget such that funding will be provided to accomplish a project, regardless of the unforseen future conditions. If a project is funded and is completed under budget, the funds remaining will simply revert to the General Fund.

Page 11

Paragraph 3; The Department agrees with the Auditor General's recommendations that more imaginative management will mitigate costs and will add into its future Operating Budget requests sufficient staff to (1) properly and more effectively utilize its present resources and (2) will take steps to more adequately prepare maintenance budget requests. The quantity of these staff do need to be increased as the number of buildings and facilities increase in future years. Outside factors that influence and have a direct bearing on staff requirements must include and consider the increased restrictions being placed upon existing facilities due to environmental (asbestos, fuel tank testing, P.C.B., etc.,) more stringent life, safety and health codes and increased state regulatory agency requirements.

Page 12

Bullet 1; As was stated earlier, this concept needs a more in-depth analysis and may be ill advised from an operational perspective. The use of a Central Kitchen may have some savings in construction dollars, but the Department questions the level of savings mentioned by the Auditor General.

Page 12

Bullet 2; The Auditor General's recommendation includes three staff to be hired to supervise an inmate crew. The Auditor General fails to mention the Department would need approximately $150,000 per year in additional Personal Services/Employee Related, In-State Travel, Other Operating and WIPP funds to support this program. If these funds were available, the Department could correct the majority of those roofing issues that do not involve asbestos or structural damage.

Page 13

First Paragraph
Bullet 1; The Department concurs that surge protectors would provide some protection against lightning strikes, but does not concur that the Auditor General's proposal would provide service almost as well as lightning rods. The lightning protection systems utilizing lightning rods provide a much higher level of protection. This is especially true for perimeter detection systems which are the major security system at a prison facility. The Department's approach to this issue is based upon the recommendation of a nationally reputable security electronic system consultant and a local electrical consulting firm. Surge protectors, as recommended by the Auditor General, are installed at Tucson, Winslow and Perryville and do not provide the level of protection required for security. Should the Auditor General's recommendations be followed and the system not operate during an electrical storm, the likelihood of a successful escape from a secure prison would be increased.

Page 13

Second Paragraph
Bullet 1; The Department concurs with the Auditor General that all ASPC - Perryville buildings could be re-roofed on a cyclical basis. The issue that raises concern, however, is that the funding required ($815,000) represents 83.6 percent of ASPC - Perryville's annual operating expenditures for all maintenance. In order to meet the Auditor General's request, significant other maintenance would have to be deferred and, in turn, could increase maintenance needs and costs in other areas.

Page 13

Last Paragraph; The Department's request of $745,000 was obtained from a registered electrical engineer. In light of such information, the Department would be remiss in using a budget request figure which may not have considered the full scope of the project.

Page 14

First Paragraph
Bullet 1; The Department does not disagree with the cost factors presented by the Auditor General. The Department, however, must point out that the budget request was an estimate based upon unknown information as to the precise number of leaking tanks or the extent of repairs needed. The actual costs to test and repair leaking underground tanks more closely approximated the $150,000 estimate by the Auditor General, but the actual number of leaking tanks and the types of repairs needed were less than was initially estimated by Facility Management staff almost two years before actually testing and repairs were conducted.

Page 14

Recommendation #2 & 3; The Department agrees with the Auditor General's recommendations. To accomplish those more detailed needs, additional staff would be needed to meet current needs and those staff will be requested in future operating budgets. Factors that influence current and future staff needs are:

1. Building health, life, safety code provisions
2. Environmental code requirements
3. Number of prison buildings/facilities to be maintained and/or improved
4. Infrastructure to be maintained/improved.

Page 16

TABLE 2, "Cost Estimates & Appropriations for New Prison Construction 1985 - 1991"

The table incorrectly states the values of the "Original Estimate" vs the "Legislative Appropriation" for the ASPC-T, ASPC-W, ASP-Y, and ASPC-F-SMU projects that originally appropriated $72,000,000 to construct a combination of 2412 cells and beds. The correct comparison is $88,675,146 for the "Original Estimate" vs $76,300,000 for the "Legislative Appropriation."

"Footnote (a)" - The Arizona Department of Corrections did not administer the construction/design of these projects as the authority was transferred legislatively to the Arizona Department of Administration, who should be able to provide the information requested relative to cost estimates and appropriations for these projects.

Page 23

Paragraph 2; The current set of A.I.A. contract documents, general conditions and supplemental general conditions have been successfully used for years with the liquidated damages clause and will continue to serve the state if they are administered properly.

Page 25

Paragraph #2 & 3; ADC is currently developing a new prison manual which standardizes design and construction of new prison facilities for all security levels. For each prison the appropriate prototypical buildings are detailed along with the process for developing the new prison. The Department will standardize the details for buildings, staffing and equipment for the new prison which will substantially decrease the changes and redevelopment of prison design and construction. The project began in 1989 and should be complete this year. This is one example of the initiative Arizona Department of Corrections' staff have undertaken.

FIFE SYMINGTON
Governor

GERARD W. TOBIN
Deputy Director

ARIZONA DEPARTMENT OF ADMINISTRATION
OFFICE OF THE DIRECTOR
1700 WEST WASHINGTON • ROOM 801
PHOENIX, ARIZONA 85007

(602) 542-1500

September 18, 1991

Mr. Douglas R. Norton
Office of the Auditor General
2700 North Central Avenue, Suite 700
Phoenix, Arizona 85004

RE: Prison Construction Program Performance Audit

Dear Mr. Norton:

I have reviewed the performance audit preliminary draft for the prison construction program, administered by the Department of Administration. I appreciate your acknowledgement of the improvements in the prison construction program since the transfer of responsibility, by the Legislature, in 1985. I believe the improvements are the result of two (2) factors: 1) The dedication of DOA employees and 2) the cooperation of the Department of Corrections.

The performance audit has appropriately noted four (4) areas which require refinement or improvement and has provided five (5) recommendations. The following addresses, by area, clarifications of the four (4) areas and implementation of the five (5) recommendations.

Inadequate Oversight:

The Department of Administration has negotiated a refund from the architectural firm in the amount of $16,695.00 for services not provided on the project referenced in the audit and a return of $9,783.00 not expended out of the relocation allowance.

The 1,600 hours referenced in the audit are extracted from a September 4, 1990 letter to the project architect. The letter

states a minimum of 600 hours and a maximum of 1,600 hours as the level of services not provided. The majority of this time is comprised of on-site clerical services.

This instance has highlighted the necessity to develop a more accurate methodology to ensure the delivery of contracted architectural services. The approach will include the tracking and verification of the services specified in the contract.

Inadequate Monitoring of Inmate Construction:

The task of constructing buildings utilizing an unskilled, untrained inmate work force poses a considerable challenge. The challenge is to impart highly technical skills to the inmate work force and coordinate that instruction into the systematic placement of work for a complete building within a predetermined schedule.

The inmate-constructed buildings at the ASPC-Eyman Rynning Unit, which had structural deficiencies, are the result of a failure to communicate and demonstrate the proper masonry construction techniques. This failure, combined with a lack of supervision, as described in the audit, resulted in structurally inadequate buildings.

The inmate construction program has completed many successful projects and is currently constructing a major facility. The $72 Million Program contained inmate construction activities at each of the four (4) sites, all were successfully completed. The 400 Bed Expansion Program of ASPC-Winslow contained three (3) major buildings, all successfully completed. The inmate construction program is currently constructing the 250 Bed ASPC-Safford facility. The project is 45% complete and is progressing satisfactorily.

While we have encountered difficulty with the ASPC-Eyman Rynning Unit project, the inmate construction program is a viable program. We will continue to improve the program through quality control procedures and effective supervision at the foreman, superintendent and management levels.

Untimely Follow-up on Outstanding Construction Item:

The timeliness of the completion of "Punch List" items, by the general contractor, is a measure of the quality of that general contractor. The Department of Administration, generally, doesn't

have difficulties with the prudent general contractor who desires to complete his contractual obligations. The Department of Administration has had difficulties with general contractors who, without sometimes intense persuasion techniques, are reluctant to complete their "Punch List" items.

The Department of Administration maintains a retainage on all projects until the completion of all "Punch List" items. This retainage, on occasion, does not seem to be of sufficient importance to the general contractor to speed his completion of the "Punch List" items.

In an effort to express the importance the Department of Administration places on the completion of "Punch List" items, we have incorporated a liquidated damages clause for the timely completion of all "Punch List" items, in the current contract.

A new general contractor's contract, currently being drafted, will include the liquidated damages clause for "Punch List" items. This contract is scheduled for completion and implementation prior to the end of 1991. The new contract will be utilized on all the Department of Administration construction projects.

Limited Involvement in Warranty Issues:

The Department of Administration and the Department of Corrections have established warranty procedures. These procedures outline the general contractor's responsibilities. The procedures are incorporated in the project specifications and therefore become contract requirements. Both agencies have agreed that for the one-year warranty period the primary contact is the on-site Department of Corrections presence, with the Department of Administration being the secondary contact. This arrangement has been successful with the Department of Administration becoming increasingly involved in the resolution of outstanding warranty issues.

The difficulties with the enforcement of the contract warranty procedures is not with the prudent contractor. The task is to find a mechanism which will prompt the reluctant general contractor to comply with the warranty procedures. One method may be the withholding of a certain percentage of the contract funds to accomplish warranty repairs if the general contractor is not timely or refuses. Another method may be the requirement that on major projects, the general contractor must maintain, on-

site, an individual who coordinates warranty issues with the Department of Corrections for the one-year warranty period.

It is likely that the incorporation of such methods will increase the cost of construction. The value of the increased cost must be measured against the warranty service received. The Department of Administration will determine, in conjunction with the Department of Corrections, a method which will better serve the Department of Corrections' needs.

Recommendations:

1. The Department of Administration will develop a methodology to ensure that the contracted architectural services are rendered and that all contract provisions are complied with.

2. The Department of Administration will investigate and implement, if appropriate, a mechanism which evaluates an architect's performance on a particular project and makes that information available to the selection committee considering the same architect on another project. This will be reviewed in accordance with applicable statutes regarding the selection of architects.

3. The Department of Administration will consider the establishment of a permanent quality control position, or other permanent positions, in the inmate construction program. This consideration will evaluate the current program, future involvement and legislative intent in the utilization of inmate labor.

4. The Department of Administration has incorporated a liquidated damages clause for completion of "Punch List" items in the current contract. The new construction contract, currently being drafted, contains the clause, which will be utilized on all the Department of Administration construction projects.

5. The Department of Administration and the Department of Corrections will consider alternate approaches to ensure the general contractor's compliance with warranty procedures. The approaches considered will include the retainage of a fixed sum, the requirement of the general contractor to maintain an on-site presence for the one-year warranty period and the reevaluation of the warranty procedures and the respective roles of the Department of Administration and the Department of Corrections.

In conclusion I would like to thank you and your staff for the favorable review. The audit has acknowledged the improvements made since the transfer of responsibility in 1985 and recognized the accomplishments of the program on a national scale. Equally important, the audit has highlighted some areas that we are currently striving to improve and which we believe can be resolved. By refining the systems, we will improve the level of service to our clients.

Sincerely,

Gerard W. Tobin
Deputy Director

GWT/SJC/jo